This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. through 47. (Cancelled)

48. (New) An endoscopic catheter adapted for insertion into body cavities, comprising:

a catheter sheath having a distal catheter portion;

an illumination device within the catheter sheath for illuminating an area around the distal catheter portion with electromagnetic radiation;

an image recording unit for recording an image of the electromagnetic radiation reflected by the area around the distal catheter portion and pass it to a proximal end of the catheter;

an image reproduction unit, connected to the proximal end of the catheter and adapted to reproduce an image of the recorded electromagnetic radiation;

wherein the catheter is adapted controllably for insertion into blood vessels and for reproducing the electromagnetic radiation image reflected by the area around the distal catheter portion, with a wavelength for which blood has a high transparency; and

a ring electrode integral with an outer surface of the catheter sheath and proximate the distal catheter portion, the electrode at least one of: delivering an electrical signal to body tissue adjoining the distal catheter portion and receiving an electrical signal from body tissue adjoining the distal catheter portion.

49. (New) The catheter of claim 48, wherein the illumination device illuminates the area around the distal catheter portion with infra-red light of a wavelength of between 600 and 650 nanometers.

50. (New) The catheter of claim 48, wherein the illumination device further comprises an illumination light waveguide from the proximal catheter end to a distal catheter end, to pass electromagnetic radiation serving for illumination purposes from the proximal catheter end to the distal catheter end, the illumination wave guide being integral with the catheter sheath.

51. (New) The catheter of claim 48, further comprising:

an expandable balloon provided on the distal catheter portion.

52. (New) An endoscopic catheter adapted for insertion into body cavities, comprising:

a catheter sheath having a distal catheter portion;

an illumination device within the catheter sheath for illuminating an area around the distal catheter portion with electromagnetic radiation;

an image recording unit for recording an image of the electromagnetic radiation reflected by the area around the distal catheter portion and pass it to a proximal end of the catheter;

an image reproduction unit, connected to the proximal end of the catheter and adapted to reproduce an image of the recorded electromagnetic radiation,

wherein the catheter is adapted controllably for insertion into blood vessels and for reproducing the electromagnetic radiation image reflected by the area around the distal catheter portion, with a wavelength for which blood has a high transparency;

a ring electrode integral with an external surface of the distal catheter portion, the electrode at least one of: delivering an electrical signal to body tissue adjoining the distal catheter portion and receiving an electrical signal from body tissue adjoining the distal catheter portion; and

an angioplasty balloon integral with the catheter sheath and proximate the distal catheter portion.

53. (New) The catheter of claim 52, wherein the illumination device illuminates the area around the distal catheter portion with infra-red light of a wavelength of between 600 and 650 nanometers.

54. (New) The catheter of claim 52, wherein the illumination device further comprises an illumination light waveguide from the proximal catheter end to a distal catheter end, to pass electromagnetic radiation serving for illumination purposes from the proximal catheter end to the distal catheter end, the illumination wave guide being integral with the catheter sheath.

55. (New) An endoscopic catheter adapted for insertion into body cavities, comprising:

a catheter sheath having a distal catheter portion;

an illumination device within the catheter sheath for illuminating an area around the distal catheter portion with electromagnetic radiation;

an image recording unit for recording an image of the electromagnetic radiation reflected by the area around the distal catheter portion and pass it to a proximal end of the catheter;

an image reproduction unit, connected to the proximal end of the catheter and adapted to reproduce an image of the recorded electromagnetic radiation,

wherein the catheter is adapted controllably for insertion into blood vessels and for reproducing the electromagnetic radiation image reflected by the area around the distal catheter portion, with a wavelength for which blood has a high transparency; and

an angioplasty balloon integral with the catheter sheath and proximate the distal catheter portion.

56. (New) The catheter of claim 55, wherein the illumination device illuminates the area around the distal catheter portion with infra-red light of a wavelength of between 600 and 650 nanometers.

57. (New) The catheter of claim 55, wherein the illumination device further comprises an illumination light waveguide from the proximal catheter end to a distal catheter end, to pass electromagnetic radiation serving for illumination purposes from the proximal catheter end to the distal catheter end, the illumination wave guide being integral with the catheter sheath.